

Analysis of Reasonably Available Transportation Control Measures for Federal Ozone Plan

Source	Description	General Comments	Previously addressed in 2001 Plan RACM Analysis?	Are reductions de minimis?	Economically or technologically infeasible?	Would measure expedite attainment date?	MTC authority to implement /enforce?
Correspondence							
Charlie Cameron	Work commuting education and mass transit	Effects of general educational programs not predictable in terms of future emission reductions.					
Shanna O'Hare, #1	Mid-day fare free zones in congested downtown areas	Shuttles could reduce downtown traffic congestion, but limited services not expected to produce significant regional emission reductions.		Yes	Current economic problems preclude major expansion of transit service between now and 2006 (i.e., operators currently cutting back service).		
Shanna O'Hare, #2	Implement Safe Routes to Transit	Effect on transit use difficult to analyze, as routes and improvements have not been identified.		Unknown			
Sherman Lewis, #1	Consider High Occupancy Toll network	Implementation of broad based network for allowing SOVs into HOV lanes for a price, being considered on a corridor by corridor basis.				Implementation timeframe not within attainment date.	
Sherman Lewis, #2	Air pollution charges on parking in Severe Work Attraction Zones	Parking fees in various forms have been extensively analyzed in the past using MTC travel demand model. Method for implementation remains problematic.	Yes, see "18" on page 99			Unlikely to advance date, given potential public and business concerns and length of time it would require to implement proposal.	Authority for parking charges would be local, requiring agreements from numerous separate jurisdictions.
Matt Williams, #1	Implement AC Transit Enhanced Bus improvement projects	Improvements require new capital and operating funds.			Current economic problems preclude major expansion of transit service between now and 2006	No, for reasons in column to the left	
Matt Williams, #2	Low income student bus pass program	Two year pilot program underway. Purpose of program is to promote better school attendance for students who generally already use transit		Yes			

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Steve Goetz, #1	Real time bus information/arrival displays	Impact of real time arrival information on attracting new riders to transit will vary by operator, and is difficult to predict a priori.		Could be de minimis		Implementation of technology would extend beyond attainment date.	
Steve Goetz, #2	Carsharing services at BART stations	Evaluated in FSM 5; will be considered as possible future TCM					
Steve Goetz, #3	Developer based trip reduction ordinances	Some cities require, many do not; cannot be mandated by MTC/Air District					Neither MTC nor Air District have ability to condition local development
Steve Goetz, #4	Ramp metering to manage the flow of traffic on freeways,	Being implemented in various corridors; better techniques needed to assess emission tradeoffs between idling at on ramps and freer traffic flow on freeways.					Requires local cities to sign off
David Schonbrunn, #1	June 16, 2003 Letter Requests specific consideration of a number of TCMs being evaluated by the Sacramento Metropolitan Air Quality Management District, tailored to the Bay Area	See analysis below under SMAQMD				Limited impact by 2006	MTC could not ensure use of guidance by local governments.
David Schonbrunn, #2	April 28, 2002 Measures-TCM 1 Condition MTC funds to public agencies on: 1) having a Commuter Choice Program 2) charge for parking at commercial lots and require commercial lots to significantly raise their fees 3) require cities to support signal pre-emption for buses	Similar to measure submitted for 2001 OAP	Yes, See "1" to "3" on pages103-105				

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David Shonbrunn, #3	April 28, 2002 Measures: TCM 2 Provide more funding for regional transit, including setting new ridership targets and allocating funds to meet these targets	Similar to measure submitted for 2001 OAP	Yes, See "1" and "1a", pages 79- 80 and "5" on page 107				
David Schonbrunn, #4	April 28, 2002 Measures: TCM 3 Implement congestion pricing on bridges and use funds to offset costs of transit for low income riders	Similar to measure submitted for 2001 OAP; congestion pricing has been proposed to author of new bridge toll bill (SB 916)	Yes, see "17" on page 98				
David Schonbrunn, #5	April 28, 2002 Measures: TCM 4 Re-establish legislative authority for trip reduction ordinances	Similar to measure submitted for 2001 OAP	Yes, see "8" on page 109		Potentially significant economic impacts in terms of costs to employers, particularly during a recession	Unlikely to advance date, given difficulty in seeking legislative approval	
David Schonbrunn, #6	April 28, 2002 Measures: TCM 5 MTC shall allocate CMAQ separately from other sources	Similar to measure submitted for 2001 OAP; programming policy, not a TCM					
David Schonbrunn, #7	April 28, 2002 Measures: TCM 6 Air District to conduct indirect source review of such as major freeway interchanges and mitigate, such as by limiting parking ratios	Similar to measure submitted for 2001 OAP	Yes, see "9" on page 109				
David Schonbrunn, #8	April 28, 2002 Measures: TCM 7 Any project included RTP must have completed a Major Investment Study that analyzes a transit /Smart Growth alternative	Similar to measure submitted for 2001 OAP; not a TCM	Yes, see "10" on page 109				
David Schonbrunn, #9	April 28, 2002 Measures: TCM 8 Modify MTC travel model to accurately predict latent demand and effects of pedestrian friendly land use	Similar to measure submitted for 2001 OAP; not a TCM	Yes, see "11" on page 110				
David Schonbrunn, #10	April 28, 2002 Measures: TCM 9 Commit specific percentage of MTC discretionary funds to Smart Growth incentives	Similar to measure submitted for 2001 OAP; not a TCM	Yes, see "7" on page 108				

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David Schonbrunn, #11	April 28, 2002 Measures: TCM 10 Require cities and counties to implement a menu of Smart Growth measures (various proposals) before they can receive any transportation improvement funds	Smart Growth incentives are currently being developed by regional agencies.				Benefits would be beyond 2006	
David Schonbrunn, #12	April 28, 2002 Measures: TCM 11 Air District would purchase development rights for land on urban fringes and trade with urban cities for increased densities near transit	Implementation approach is problematic; emission reductions cannot be assessed.				Timeframe would be long term	
John Kyle	Conversion of Hayward Airport to a truck travel center similar to the center at I-5 and State Route 99.	Emission reductions would be indirect and related to changes in freeway flows due to trucks traveling at different times. Since truck stop use would be optional, reductions are not assured.	Yes, see "40" on page 123			Unlikely, given time required to approve and develop truck stop, as proposed.	
Measures suggested at Ozone Working Group meetings							
Suggestion 1	Measures included in the Clean Air Plan to meet state air quality standards should be included in SIP	Existing State TCMs are themselves collections of multiple efforts; more specificity needed for analysis					
Suggestion 2	Use previous research linking land use and transportation to develop control measures	Measure not sufficiently defined.					
Suggestion 3	Consider control measures currently being evaluated by Sacramento air district	See analysis below under SMAQMD					

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Suggestion 4	Education program regarding detrimental effects of older vehicles and how to reduce emissions from older vehicles	Under review as an episodic program (via a survey of older vehicles); effects of general educational programs not predictable in terms of future emission reductions					
Suggestion 5	Implement transit productivity enhancements,	Emission benefits would depend on the type of productivity improvement. A number of productivity improvements have been implemented in the past .	Yes, see "1g" on page 83	Depends on measure			
Suggestion 6	Proof of transit fare payment, Ecopass	Regional smart card will provide basis for future fare collection; Commuter Check available to employers/employees.					
Suggestion 7	Regional Transportation Impact Mitigation Fee charged to new development	Emission reductions would depend on a complex chain of assumptions about future economic conditions affecting development. Emission reductions cannot be quantified.				Impact fee would affect future development versus having a near term impact.	Authority does not exist to impose such a fee.
Suggestion 8	Implement an employee Commuter Choice program -program would include parking cash out, Commuter Check, vanpool support, bikes, etc.	Commuter Choice is a suite of programs, some of which are being implemented and some of which are restricted by state law. Parking cash out program, as defined by state law, was examined under FSM 7.	Yes, see "3" on page 86.	Yes for employer s subject to current cash out law	Potentially significant economic impacts in terms of costs to employers for expanded Commuter Choice, particularly during a recession		No
Suggestion 9	Tie local transportation funding from MTC to local compliance with air quality plans	Measure not specific.	Yes, see "13" on page 94				MTC's enabling statutes do not confer power to condition funds for such broad purposes
Suggestion 10	Regional parking policy manual suggesting reduction of parking ratios near transit	Air quality benefits of parking reductions would depend on a variety of local factors. "Guidance" would not directly lead to emission reductions.		Yes, for manual		Unlikely given time to have guidance implemented at local level	

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Suggestion 11	Improve transit access or proximity to day care	Consideration in definition of MTC's Lifeline Transit Network		Yes	Current economic conditions preclude addition of significant new Lifeline transit service between now and 2006.		
Suggestion 12	Encourage telecommuting on high ozone days	Episodic measures present difficulty in terms of obtaining SIP credits					Employers control work rules and schedules of their employees.
Suggestion 13	Pedestrian-friendly development standards	Measure not specific.				Impacts likely beyond 2006	
Suggestion 14	Control parking in new development	Measure not specific, but assume it means limiting parking supply; impact would vary with local conditions				Impacts likely beyond 2006	Parking supply is under local government authority
Suggestion 15	Encourage transit oriented development (TOD) and transportation demand management (TDM) features in zoning	Measure depends on independent actions of many cities. Air quality benefits would depend on a variety of local factors and be long term	Yes, see "3" on page 105				
Sacramento Metro. Air Quality Management District(SMAQMD) TCMs							
23	Collect fees and tolls from drivers to use roads or enter areas	Success in reducing emissions would depend on availability of alternative modes. Restrictions on driving in downtown areas would likely have more CO benefit than ozone.	Yes, See "7" on page 90		Possible significant economic impacts on retail activity in downtowns.	Complexity, public and business concerns would make implementation before 2006 highly unlikely.	
28	Require that Congestion Mitigation Air Quality (CMAQ) funds be used only for projects that significantly improve air quality	See response above (Schonbrunn #6)					
43	Automate speed enforcement and lower the speed limit to 55 mph for heavy duty vehicles	Speed enforcement evaluated in FSM 3; technical issues with estimating VOC/NOx reductions. Speed limit for trucks is already set at 55 mph.			Automating speed enforcement would be technologically complex.	Lengthy implementation due to technology development/deployment	

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45	Restrict idling of trucks with rules and devices	Difficult to implement and enforce; idling devices on trucks would be a technology based measure				Truck idling would primarily affect NOx, which may not expedite attainment.	Unclear enforcement responsibility.
176	Develop a station car/low emission vehicle share program	See response above (Goetz)					
151	Re-evaluate the traffic volumes that trigger ramp-metering lights	See response above (Goetz #4)					
303	Automobile insurance is charged at the pump or insurance is mileage based	Would require state legislation. Mileage based fees not directly related to emissions for newer cars.	Also see "17" on page 98			No due to likely length of legislative process to enact new pricing schemes	
215	Secure funding for expanded transit	See response above (Schonbrunn #3)	Yes, see "1" and "1a" on pages 79-80				
13	Collect a fee from each homeowner with a vehicle garage	Measure not specific in terms of intended effect—vehicle ownership decisions or travel behavior modification.				No	Fee would need to have some connection to its use and beneficiaries which are not defined.
18	Prohibit on-site airport parking	Would encourage off site parking development, without necessarily resulting in use of transit or other HOV options.			Significant economic impacts on airports who must pay for their parking facilities	No	
46	Restrict trucks to hauling at night on Spare The Air days unless equipped with low emission technology	Appears to be a measure to encourage new technology; not a TCM.	Yes, see "40" page 123		Potentially significant impacts on economy due to restrictions on movement of goods and services.	Truck idling would primarily affect NOx, which may not expedite attainment.	No.
47	Prohibit use of pre-1985 vehicles during episodes	See response to OWG "Suggestion 5" above				Unlikely any such authority would be enacted. .	
56	Increase gasoline sales tax	Results of past work show tax would have to be very high to reduce driving by any significant amount. Polling shows little support for gas tax increases.	Yes, See "17" on page 98	Yes, unless tax very high		Unlikely given difficulty in obtaining legislative and/or voter approval for a gas tax increase.	

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57	Require passenger vehicles not meeting the standards of passenger cars to pay an annual fee and/or a fee upon purchase	Technology based; not a TCM					
71	Fee for Access to City Center for HD Vehicles or all vehicles	Similar to "23" above.					
76	Extend the Parking Cash-Out law to employer-owned parking spaces	See response above (Suggestion #10)				No, given legislative difficulty in passing such a measure.	
77	Reduce the number of public parking spaces by 50%	Could lead to circuitous driving and extra emissions, particularly if there are not convenient alternatives to driving.		Amount of public parking small, compared to overall parking	Significant economic impact on local retail activity.	No	
78	Emission based vehicle registration fees	Impact of one time fee on daily driving would be marginal; impact on vehicle ownership cannot be determined.		Yes		High fees would be controversial and legislation could be lengthy process	
84	Provide free public transit	Would require substantial new funding to replace fare revenues for Bay Area's extensive transit system.	Yes, see "1" on page 79		Economically infeasible. No funds available to compensate for significant lost fare revenues.		
85	Eliminate airport parking and replace with alternative fuel shuttle buses	See "18" above					
86	Provide free public transit during episodes	Free fare demonstration project underway for Livermore area (LAVTA); difficulty in claiming SIP credits for episodic measures.		Depends on no. of new riders	Funding expanded free transit program during episodes would be problematic given current constraints on revenues caused by economic conditions.		
96	Emission-based parking fees	Implementation likely impractical, given technological challenges and public/private control of parking space.			Technology for such a system is problematic.	Long lead time to develop/implement	No authority to impose such fees on private parking space

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97	Increase fees for parking garages and meters during episodes	Occasional fee increases unlikely to affect travel on the few Spare the Air Days; difficulty in obtaining SIP credits for episodic measures.		Yes	Technological challenges to varying parking fees on a daily basis, particularly for unattended spaces.		
102	Odd/Even License Plate No Drive Days	Many people would have no travel alternatives on No Drive days			Economic hardships for businesses due to difficulty for employees to get to work as well as retail businesses.	Controversial; legislative process would be lengthy.	
104	Reduce Work-Related Trips	Measure not specific.					
107	Dedicated Bus Lanes	Generally, concerns with limited number of buses using lanes and adverse impact on traffic leading to higher emissions in adjacent lanes.	Yes, see "15" on page 114				
111	Improve safety and security on public transit	Programs would have indirect effect on ridership; emission reductions cannot be quantified.					
113	Displaying air quality data on billboards	No basis for estimating impact on travel behavior and emissions.		Yes			
118	Increase Vehicle Registration Fee and Traffic and Parking Violation Fines	Impact of increasing parking fines cannot be predicted, and may not lead to change in driving behavior, simply more attention to meter time.					
123	Work-Related Trip Reduction Program	Public agencies cannot require employer based trip reduction programs under State law.	Yes, see "4" on page 87				
145	Public Education on NOx and ROG sources in Schools and Small Businesses	Effects of general educational programs on travel behavior cannot be predicted.					
149	Implement toll booths and pay-to-drive roads	Beyond paying tolls on bridges or new roads, this measure would have low public support. High Occupancy Toll lanes are under continuing review.			Widespread economic impacts if implemented on all roads.	Lengthy process to implement due to public/business concerns.	

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154	Implement public transit discounts and incentives for employees	Various transit fare discount programs already exist; various employers have transit incentive programs.			Economic conditions limit any further discounts to transit fares, which would represent a loss in revenues.		
157	Require a surcharge to be paid by drivers during the summer season based on the number of driving miles	Mileage based fees would have to be significant to affect driving; mileage does not necessarily equate to emissions with newer cars	Yes, see "17" on page 98			No, given difficulty is passing legislation to significantly raise auto fees	Unclear who would implement such a measure or how fees would be spent.
169	Install traffic circles at intersections	Emission benefits compared to well timed signals unlikely to be significant		Yes	Large costs to retrofit traffic circles into existing street system likely to be prohibitive, particularly in comparison to other transportation needs		
174	Regional Rideshare Program	Program already exists and is periodically reviewed for improvement.					
179	Enhance real time traffic information to allow drivers to make better decisions about when and where to travel	Travel behavior changes difficult to predict, as are emission benefits.					
185	Community-based shuttle system	Measure not specific		Unknown	Widespread system would be problematic given current difficulties in sustaining existing public transit services, due to economic downturn..		
187	Bus Traffic-Signal Pre-emption	Effect of more reliable bus service difficult to predict, but measure warrants further consideration.		Depends on routes/ridership			
195	Public information about the total costs of gasoline use	Effects of general educational programs on travel behavior cannot be quantifiable					
201	Increase Bike/Walk Trips	Measure not specific; also existing TCM addresses bike/ pedestrian travel (TCM B)					

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208	Regional alternative work schedules	Shifting commute emissions to later time of day may be beneficial, but government cannot mandate work schedules	Yes, see "3" on page 86				Employers determine work rules and schedules
294	Implement traffic calming measures to reduce vehicle speed and encourage bicycle and pedestrian activity	Calming can slow traffic or divert traffic to more circuitous routes, potentially increasing emissions. Impact on bike/pedestrian use would be indirect and difficult to estimate.	Yes, see "9" on page 91				
304	Increases the price of gasoline to pay for damages of pollution, cost of global warming (greenhouse gases), and cost of petroleum dependency	See response to 157 above					
306	Parking Cash Out	See response to Suggestion #8 above.					
312	Offers incentives to parking garage monthly passholders to not use their passes on busy parking days	Would apply to only a very small number of trips regionwide.		Yes			
314	Subsidize Purchase of Bike Accessories	Measure not specific; impact on bike use unclear.		Yes			
368	Light Rail Access to Airport	Fixed guideway transit already implemented at SFO and under development at OAK and SJC.					
Other							
MTC Minority Citizens Committee	Eliminate bridge tolls and increase gas tax to pay for bridge maintenance	Eliminating payment of tolls will not speed up traffic on bridges, if the bridges themselves are already congested.	Yes, see "29" on page 120		Bridge tolls cannot be eliminated as bonds have been sold for bridge improvements.		
City of Emeryville	Improve bicycle storage process	Bicycle storage eligible for funding under existing TCM B.					

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Land Use Measures							
SMAQMD 4 (for Bay Area)	Support ABAG and MTC Smart Growth Policies	Smart Growth incentives are under development by the regional agencies, but will take time to formulate and adopt. Results are not expected until around 2010.	Yes, see "13" on page 94			No, results from Smart Growth efforts will be beyond 2006.	
SMAQMD 133 (for Bay Area)	Encourage Mixed Use Development	Related to above; effect depends on future amount and location of such development				See above	
SMAQMD 139 (for Bay Area)	Change Zoning Ordinances to encourage infill	Related to Smart Growth implementation.				See above	
SMAQMD 144 (for Bay Area)	Implement regionwide Urban Growth Boundaries	Implementation at regional level is problematic as no regional agency has authority to implement.				See above	
SMAQMD 172 (for the Bay Area)	Implement Indirect Source Review to mitigate emissions from traffic generated by new development	Related to above; EIR process provides opportunity for agency comments on new development and required mitigation.				See above	
SMAQMD 371 (for the Bay Area)	Limit/control the further job housing imbalance to reduce commute travel	Jobs/housing balance ratio does not guarantee people will live and work in the same location; implementation related to Smart Growth initiative.				See above	
Sherman Lewis	Analyze, for educational purposes, two different neighborhoods, a typical suburban neighborhood and another model "car free" neighborhood with the same population.	This would be a complement to the Smart Growth implementation discussion and could be accomplished outside the TCM process.					